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## Central Puget Sound Regional Fare Coordination System

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### PFTP Operations Manual - Sound Transit

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# 1 Introduction

The Portable Fare Transaction Processor (PFTP) for Sound Transit (ST) is a handheld device that can be used for a variety of purposes in the Automated Fare Collection (AFC) system of the Central Puget Sound Regional Fare Coordination System (RFCS). The PFTP provides the following functions:

- Operator login and logout procedures
- Inspection of passenger fare cards
- Inquiries on fare cards for passengers
- Data transfer
- Supervisor functions
- Maintenance functions

**Note:** This manual covers only the Operator and Supervisor functions. Maintenance functions are covered in a separate maintenance manual.

The PFTP is used mainly as an inspection device on ST trains. Passengers present fare cards for inspection if they are asked to do so by Conductors. The passenger's fare card is presented to the PFTP, which has a card reader at the top of the device. These transactions are passed from the device to the Data Acquisition Computer (DAC), via the wireless data transfer system. This information, referred to as usage data (UD) includes payments, schedules, and shift details that are recorded to the DAC.

The DAC also sends information to the PFTP. This information is referred to as configuration data (CD), and it includes such information as timetables, fares, and device settings.

## 1.1 Purpose

This document is intended for training operators in the use of the PFTP handheld device.

## 1.2 Scope

The scope of this document is limited to instructions relating to the navigation of operator screens and making inquiries on passenger fare cards. This document also includes procedures for Supervisors.



## 2 Device Overview












The PFTP is a [Hewlett-Packard iPAQ P510](#) handheld device. Figure 1 shows the features of the device.
































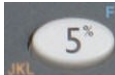

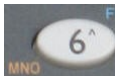
Figure 1: The Handheld Portable Fare Transaction Processor (PFTP)

On-screen icons can be clicked using the stylus provided with the unit. Table 1 displays screen icons and their descriptions.

Table 1: Screen Icon and Keypad Button Reference Chart

Screen Icon or Action	Description	Equivalent Keypad hotkey	Used
	CLEAR entry	No equivalent	LOG IN screen
	CHECK icon		LOG IN screen
	READER ON icon	No equivalent	Shows the card reader is ready for reading
	READER OFF icon		Activates the card reader
	INFORMATION icon	No equivalent	LOG IN screen
	ESCAPE icon		On some screens, pressing the <b>Enter</b> key will also activate the ESC function
	TAB		Moves cursor to next text entry field

Screen Icon or Action	Description	Equivalent Keypad hotkey	Used
Clicking in next text entry field using the stylus	TAB		Moves cursor to next text entry field
	Keyboard icon	No equivalent	Displays/hides on-screen keyboard
	Fare Inspector Role		SELECT ROLE screen
	Supervisor Role		SELECT ROLE screen
	Maintenance Role		SELECT ROLE screen
	Inquiry icon		CARD INQUIRY screen
	Options icon		CARD INQUIRY screen INSPECT CARDS screen
	Inspection Mode icon		INSPECT CARDS screen
	END TRIP icon		TRIP OPTIONS screen
	Audio icon		TRIP OPTIONS screen
	END SHIFT icon		SHIFT OPTIONS screen
	DEVICE LOCK icon		Locks the PFTP
	DEVICE UNLOCK icon	No equivalent	Displays LOG IN screen for unlocking the PFTP
	Select from drop-down menu		CARD INQUIRY screen
	Battery Level	No equivalent	Indicates level of power in battery

Screen Icon or Action	Description	Equivalent Keypad hotkey	Used
	LIST TRIPS icon		SUPERVISOR screen
	TRIP TOTALS icon		SUPERVISOR screen
	SHIFT TOTALS icon		SUPERVISOR screen
	CHANGE PIN icon		SUPERVISOR screen
	UNBLOCK icon		SUPERVISOR screen

## 2.1 Screen Layout

The PFTP display screen has the elements shown in Figure 2.

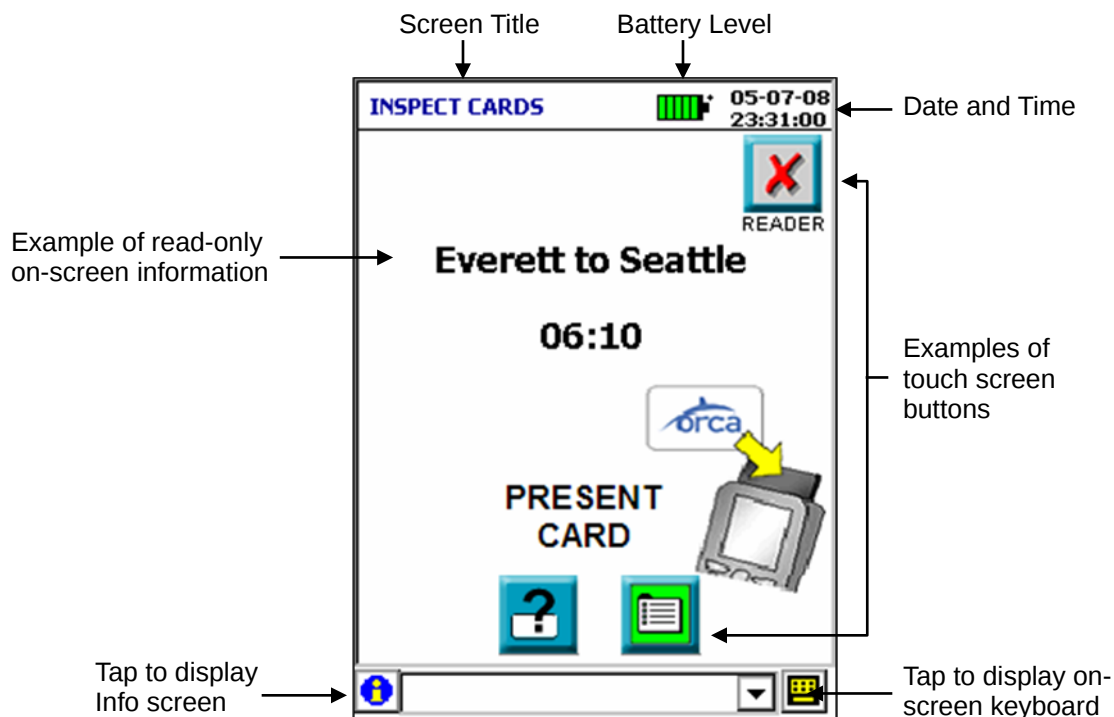


Figure 2: The PFTP Screen Layout

**Note:** It is very important to look frequently at the battery level indicator, which shows if the battery power is getting low. It is also important to connect the

device to the power source by using the [iPAQ-Psion](#) connector as often as possible to keep it fully charged (see section 6 Error Messages, 44).

## 2.2 The Keypad and Button Relationship

Figure 3 shows an example of how icons and buttons on the display screen correspond to hotkeys located on the keypad.

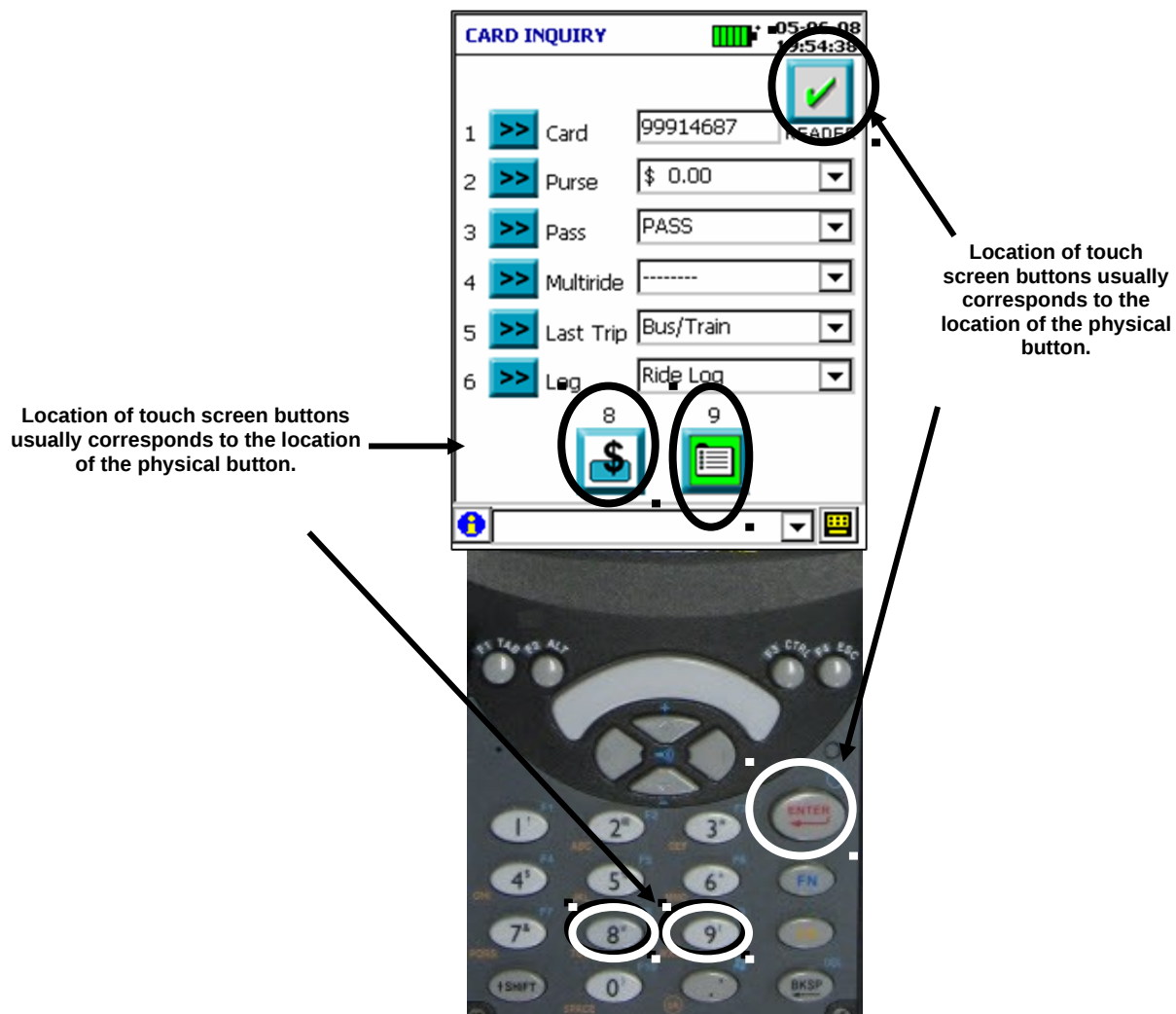


Figure 3: Keypad and Button Relationship

To enter text into the PFTP, you can use keys on the physical keypad, or you can use the stylus to tap the keys on the display screen keyboard. In order for some characters to be used on the physical keypad, **Orange FN** key or the **SHIFT** key must be pressed to access that corresponding set of characters.

The bottom right corner of the screen displays a keyboard icon, which can be tapped to display or hide the on-screen keyboard.



Figure 4: Screen Keyboard Icon

The display screen keyboard is based on the characters available on a standard QWERTY keyboard. Due to limitations on screen space, the keyboard is presented in several views, with each view displaying a subset of the available characters.

The default view shows lowercase characters, digits, and punctuation. The large button on the bottom row inserts a space character.

1	2	3	4	5	6	7	8	9	0	-	=	⬅
Tab	q	w	e	r	t	y	u	i	o	p	[	]
CAP	a	s	d	f	g	h	j	k	l	;	'	
Shift	z	x	c	v	b	n	m	,	.	/	↵	
Ctl	áü	`	\						↓	↑	←	→

Figure 5: Keyboard Display – Lowercase

Tapping the **CAP** key displays the uppercase characters and a second set of punctuation characters. Tapping the **CAP** key again reverts to the default view.

!	@	#	\$	%	^	&	*	(	)	_	+	Del
Tab	Q	W	E	R	T	Y	U	I	O	P	{	}
CAP	A	S	D	F	G	H	J	K	L	:	"	
Shift	Z	X	C	V	B	N	M	<	>	?	↵	
Ctl	áü	~							↓	↑	←	→

Figure 6: Keyboard Display – Uppercase

Tapping the **Shift** key when the **CAP** view is active temporarily converts the keyboard to have one character be uppercase followed by lowercase.

1	2	3	4	5	6	7	8	9	0	-	=	⬅
Tab	q	w	e	r	t	y	u	i	o	p	[	]
CAP	a	s	d	f	g	h	j	k	l	;	'	
Shift	z	x	c	v	b	n	m	,	.	/	↵	
Ctl	áü	`	\						↓	↑	←	→

Figure 7: Keyboard Display – One Uppercase/Rest Lowercase

Tapping the **áü** key displays a set of lowercase special characters.

¿	í	¢	€	£	¥	§	¶	±	°	«	»	⬅
Tab	à	á	â	ã	ä	å	æ	ç	ð	è	é	ê
CAP	ë	ì	í	î	ï	ñ	ø	œ	ò	ó	ô	
Shift	õ	ö	ß	þ	ù	ú	û	ü	ý	µ	↵	
Ctl	áü	®	©						↓	↑	←	→

Figure 8: Keyboard Display – Special Characters Lowercase

Tapping the **CAP** key when the **áü** view is active displays the corresponding set of uppercase characters, and tapping the **Shift** key when the **áü** view is active temporarily converts the keyboard to have one character be uppercase followed by lowercase.

												Del
Tab	À	Á	Â	Ã	Ä	Å	Æ	Ç	Ð	È	É	Ê
CAP	Ë	Ì	Í	Î	Ï	Ñ	Ø	Œ	Ò	Ó	Ô	
Shift	Õ	Ö	ß	Þ	Ù	Ú	Û	Ü	Ý	µ	←	
Ctl	áü	®	©						↓	↑	←	→

Figure 9: Keyboard Display – Special Characters Uppercase

## 2.3 Correcting Text

If you need to correct text:

- On the lowercase keyboard, use the **Backspace** arrow to delete characters to the left of the cursor.
- On the uppercase keyboard, use the **Del** key to delete characters to the right of the cursor.
- On the keypad, use the **BKSP** button to delete characters to the left of the cursor
- On the keypad, use the **Blue FN** button before the **BKSP** button to delete characters to the right of the cursor.

## 2.4 Moving the Cursor between Fields

Tap the **Tab** key on the keyboard to move the cursor from one field to the next or use a **Directional Arrow** key (see Figure 10).

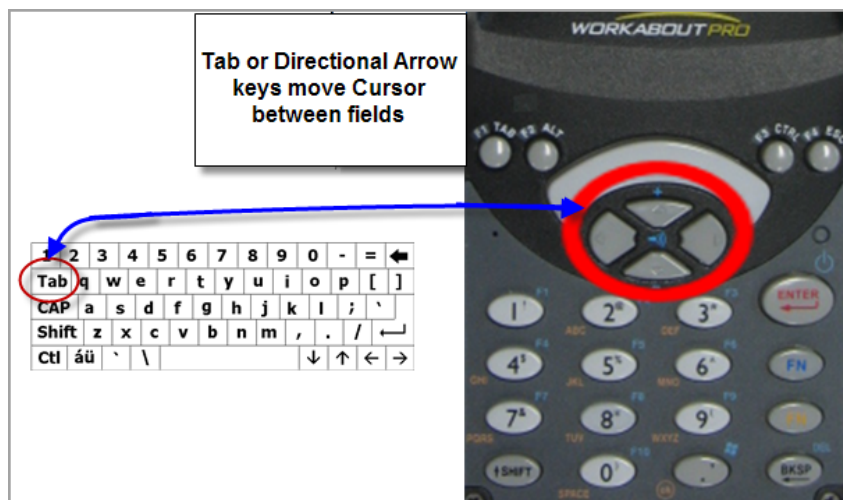


Figure 10: Directional Keys

You can cycle through the fields in the reverse direction by tapping the **Shift** key before each tap of the **Tab** key or using the opposite **Directional Arrow** key.

## 3 Operations

This section describes the operation of the PFTP. The topics discussed are:

- Login
- View Information Screen
- Inspecting Fare Cards
- Fare Card Inquiries
- Lock/Unlock Device (Login and Logout)

### 3.1 Login

Each authorized operator of the PFTP has his or her own operator card and related Personal Identification Number (PIN).

To log in to the PFTP:

1. Ensure the power for the device is turned on by pressing the power button, which is located at the top of the device, on the right side.

The **Log In** screen will be displayed.

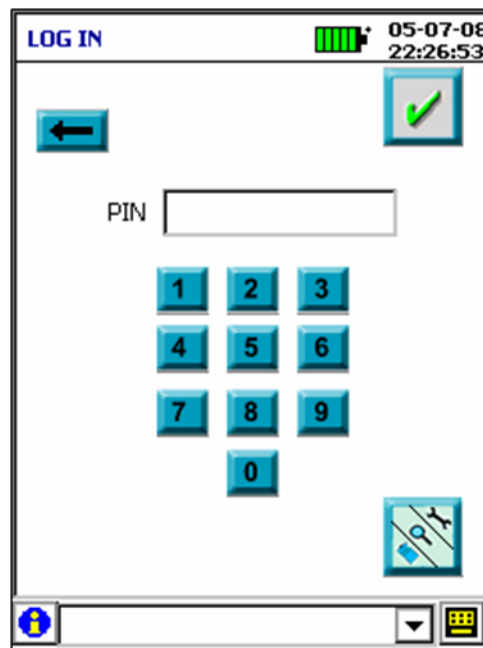


Figure 11: Log In screen

The PFTP will use the default login role on the card. If you want to log in using a different role, see section 4 Supervisor Mode 32.

2. Enter your personal identification number (PIN) in the **PIN** field. Use the numbered buttons below the field to enter your PIN.

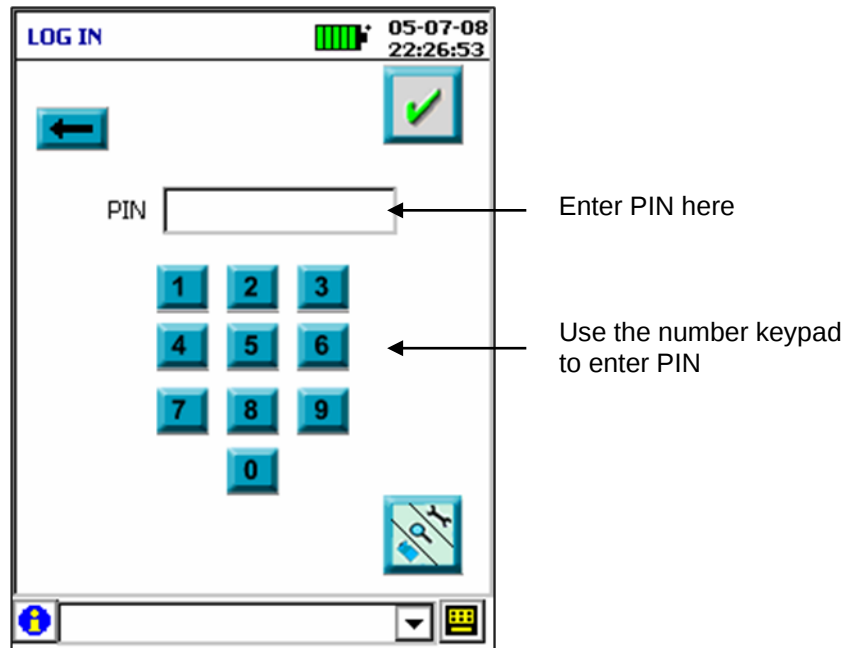


Figure 12: Log In screen – Enter PIN

The PIN will be displayed as asterisks, so your PIN is kept secret.

3. Tap the **Reader** button.

This will display the **Log In (Present Card)** screen:

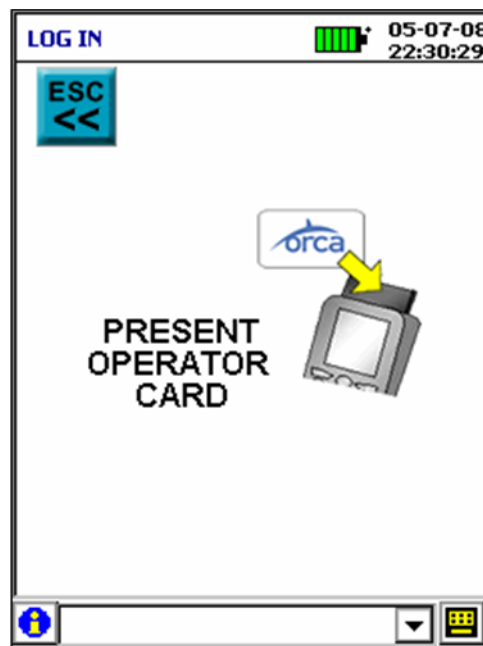


Figure 13: Present Operator Card message

4. Present your operator card at the card reader. This action is referred to as "tagging" the card.

If the card and the PIN match, the PFTP will display the **Start Trip** screen.

After logging in, you must set the trip parameters before starting the trip so that the correct fare is collected from passengers' fare cards.

To set the trip parameters:

5. Tap the **ROUTE** drop-down arrow.
6. Select the required route by tapping the route in the drop-down list.
7. Tap the **TIME** drop-down arrow.
8. Select the required time by tapping the time in the drop-down list.

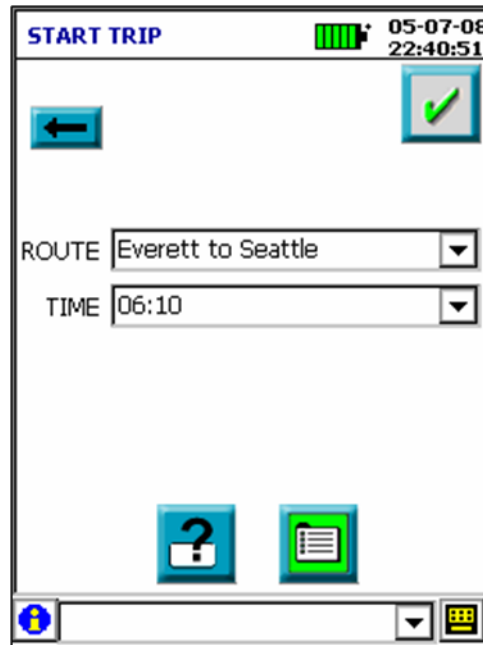


Figure 14: Start Trip screen

The Current Trip details are displayed on the **Inspect Cards** screen.

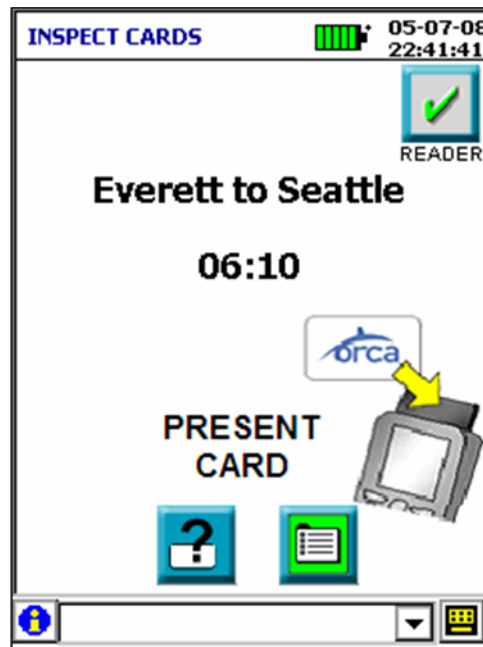


Figure 15: Inspect Cards screen

The PFTP device is now ready for inspecting fare cards and for providing details for passenger inquiries.

## 3.2 View Information Screen

The **Information** screen shows contact details for the owner of the device, and for access to technical support. It also shows the software version number. This procedure describes how to view the information screen. The **Information** icon is available on all PFTP screens.

To display the **Information** screen:

9. Tap the **Info** icon at the bottom left of the screen.

This will display the **Information** screen.



Figure 16: Information screen

10. Tap the **Esc** button to exit the **Information** screen.

This will return to the previous screen.

### 3.3 Inspect Fare Cards

After an operator login, the **Inspect Cards** screen will be displayed. Inquiry mode allows the operator to verify whether passengers are carrying valid fare cards for the current trip.

To inspect a fare card, from the **Inspect Cards** screen:

11. Present the passenger's fare card to the card reader.

If the **Reader** button shows a cross, the card reader has timed out and shut itself off, which occurs if no fare card is presented within the timeout period. The length of the timeout period is configurable and is set on the device in CD. To turn the card reader back on, tap the **Reader** button. (See Figure 2 on page 7 for the location of the **Reader** button.)



Reader Off



Reader On

The details for the current trip will be shown on the screen.

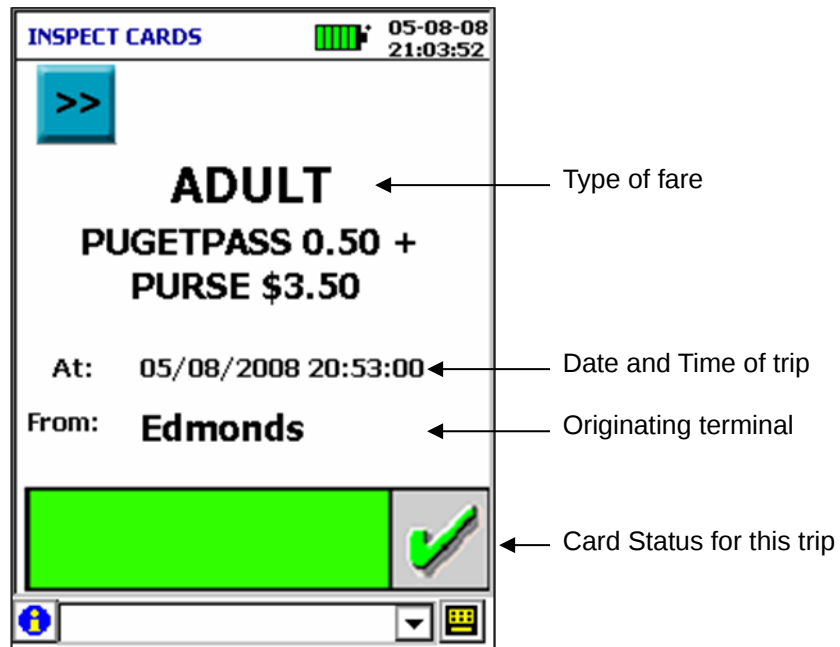


Figure 17: Valid Card transaction for Trip example

Following a preset period, the screen will return to the **Inspect Cards** main screen.

The following screen shows the display for a card that has not been correctly tagged before the commencement of the current trip.

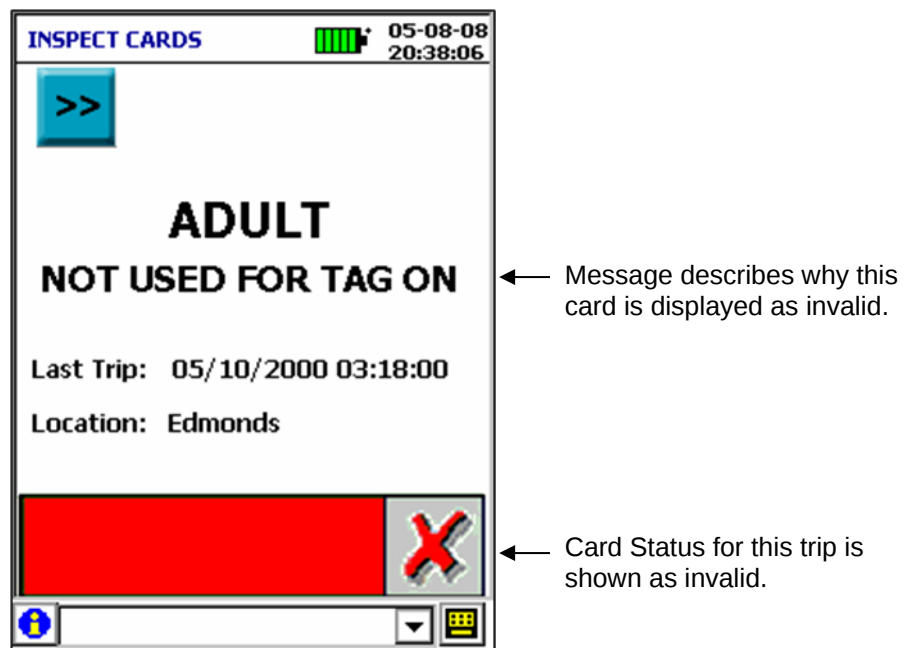


Figure 18: Invalid Card transaction for Trip example

## 3.4 Fare Card Inquiries

Inquiry mode allows the operator to examine information stored on a passenger card. This section describes the process to make an inquiry.

From the **Inspect Cards** screen:

12. Tap the **Inquiry** button.

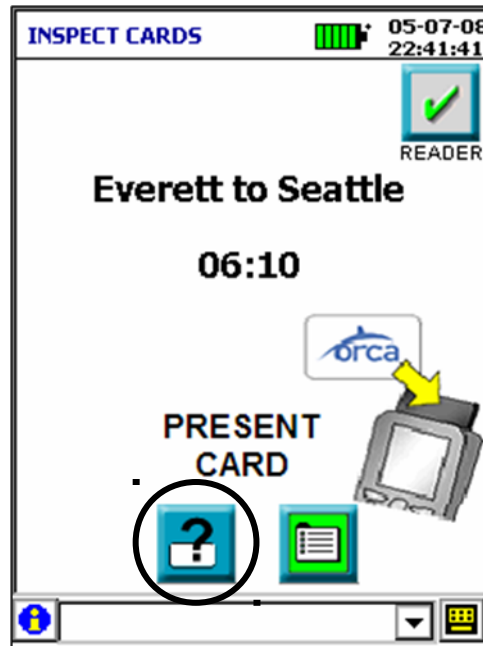


Figure 19: Inspect Cards screen – Inquiry icon

13. Present a fare card to the reader.

The card details will be displayed in the various fields on the **Card Inquiry** screen.

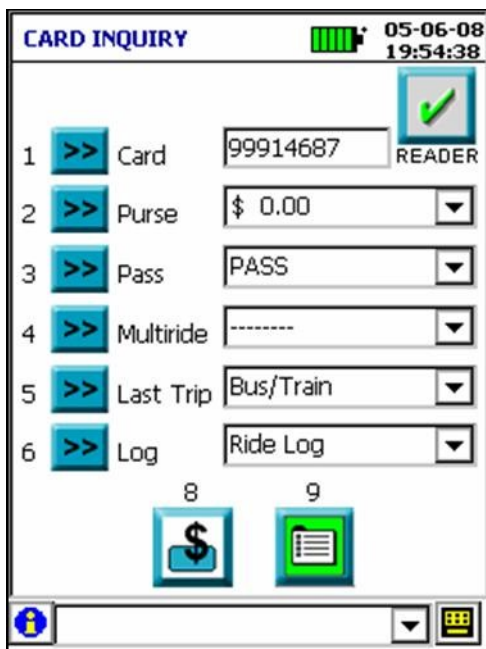


Figure 20: Card Inquiry screen

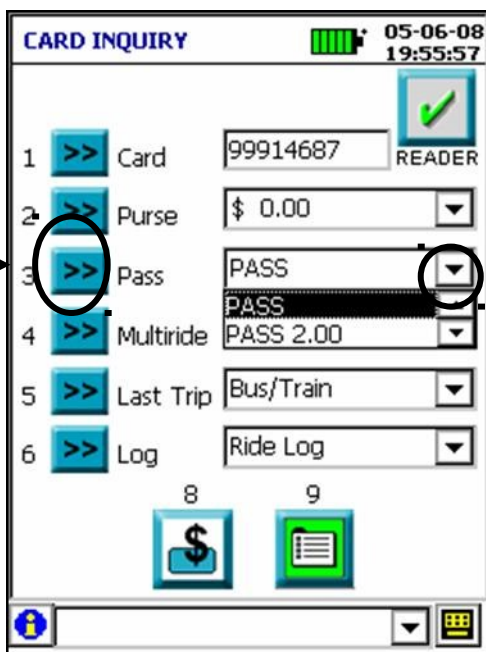
The details are displayed on the **Card Inquiry** screen with the **Card #** (number) field highlighted.

There are six different fields of information about the currently tagged card. The following example shows how to access the Pass details.

14. Use the Navigational Toggle Button to highlight the required pass, and then press the **Enter** hotkey to select it or tap the required item on the **Pass List**.

The Navigational Toggle up and down arrows can be used to move up and down to select different fields on the display screen. The right arrow is used to open a field list. The left and right arrows are used to move up and down the items in the opened list.

This is the **Field Inquiry** button for the Pass field – the same as pressing the related number key



Use this button to open the list.

Select the item on the list that is to be viewed.

Figure 21: Card Inquiry – Pass Data Field

15. To view details of the selected item, press the appropriate number hotkey or tap the related **Field Inquiry** button.

This will display the details screen for the selected field. In the following example, the Field Inquiry was made on the **Pass** field, so the **Pass Details** screen is displayed.

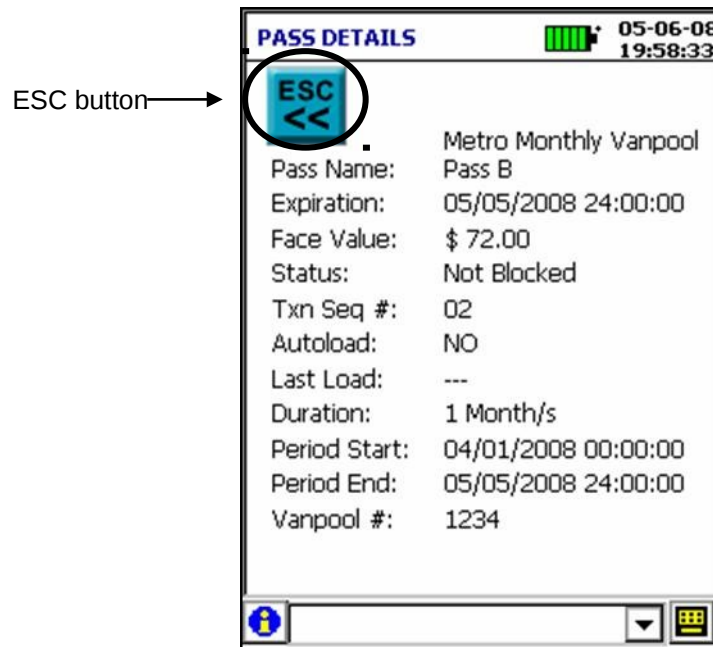


Figure 22: Pass Details

16. When you have finished viewing the details screen, press the **ESC** hotkey or tap the **ESC** icon.

The display returns to the **Card Inquiry** screen with the same card details displayed.

17. Follow steps 3 - 5 to view the details of other fields on the current card.

**Note:** The details of this card are cleared when another card is presented to the reader.

18. To go to the **Fare Mode** screen from the **Card Inquiry** screen, press the **8** hotkey or tap the **Fare Mode** button.

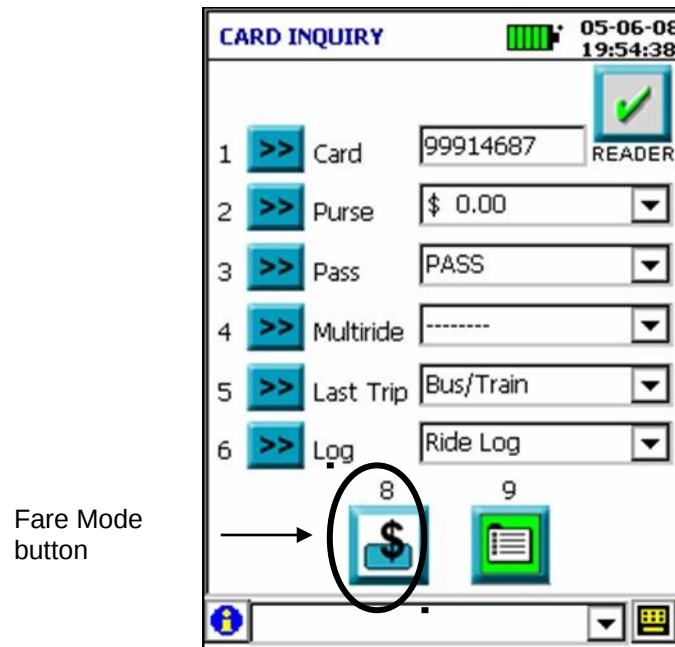


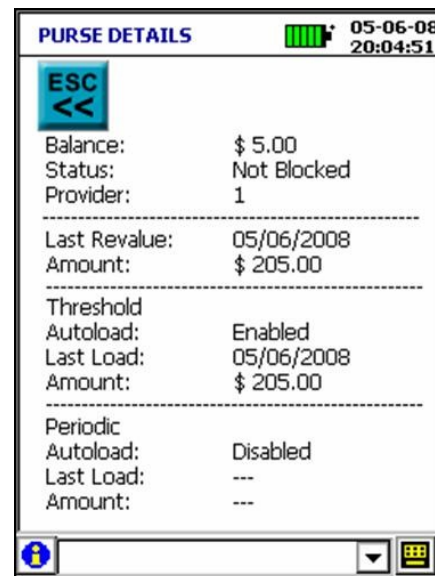
Figure 23: Inquiry screen – Fare Mode button

Details of the inquired card are cleared and the display returns to the **Fare Mode** screen.

The following are examples of fare details screens.



Card details



Purse details

Figure 24: Card Inquiry examples - Card & Purse Details

**PASS DETAILS** 05-06-08  
19:58:33

**ESC** <<

Metro Monthly Vanpool

Pass Name: Pass B

Expiration: 05/05/2008 24:00:00

Face Value: \$ 72.00

Status: Not Blocked

Txn Seq #: 02

Autoload: NO

Last Load: ---

Duration: 1 Month/s

Period Start: 04/01/2008 00:00:00

Period End: 05/05/2008 24:00:00

Vanpool #: 1234

**MULTI-RIDE DETAILS** 05-06-08  
20:42:16

**ESC** <<

WSF Mukilteo-Clinton

Product: 10 Ride Return

Status: Not Blocked

Remaining: 10

Expiration: 07/30/2008 24:00:00

Origin: ---

Destination: ---

---

Last Revalue: ---

Amount: \$ 0.00

---

Autoload: Disabled

Last Load: ---

Amount: ---

---

Txn Seq: 000001

Pass details

Multi-ride details

Figure 25: Card Inquiry examples - Pass & Multi-ride Details

**LAST TRIP** 05-06-08  
20:45:26

**ESC** <<

Status: Checked In

Agency: KCM

Started: 05/06/2008

Location: Vanpool 1234

Product 1: -----

Product 2: Period/MultiRide

Purse Last: \$ 0.00

Trip Total: \$ 0.00

---

Last ded: 05/06/2008

Xfr Expiration: 05/06/2008

Last TFC: \$ 0.00

Total TFC: \$ 0.00

**LOG DETAILS** 05-15-08  
01:37:37

**ESC** << >>

**RIDE LOG 2 of 7**

Validation: Flat Fare Checked In

Date/Time: 05/14/2008 04:55:19

Agency: KCM

Location: Vanpool 1234

---

Txn Type: Pass Use

Txn Value: \$0.00

---

Product 1: -----

Balance: -----

Product 2: PASS

Balance: 05/30/2008 24:00:00

---

Deducted: \$0.00

Last Trip details

Log details

Figure 26: Card Inquiry examples – Last Trip & Log Details

## 3.5 End Trip

At the end of a trip, you need to go to the **End Trip** screen. This can be done from the **Card Inquiry** screen or **Inspect Cards** screen.

To finish the trip:

19. Tap the **Options** button.

This will display the **Trip Options** screen.

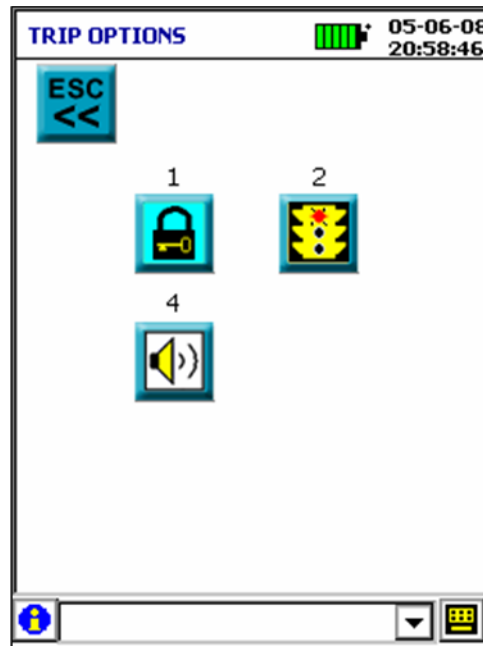


Figure 27: Trip Options screen

20. Tap the **End Trip** button or press the **2** hotkey.

This will display the **End Trip** confirmation screen.

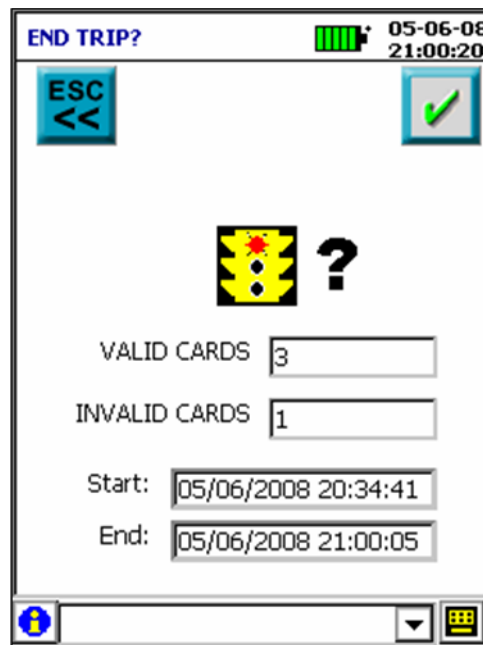


Figure 28: End Trip Confirmation screen

The **End Trip** screen displays the number of Valid Cards and Invalid Cards for the trip. The trip Start and End dates and times are also shown. If you do not want to end the trip at this time, tap the **ESC** button to return to the previous screen.

21. Tap the **Check** button to End the Trip.

This will return the device to the **Start Trip** screen, ready for the next trip to commence.

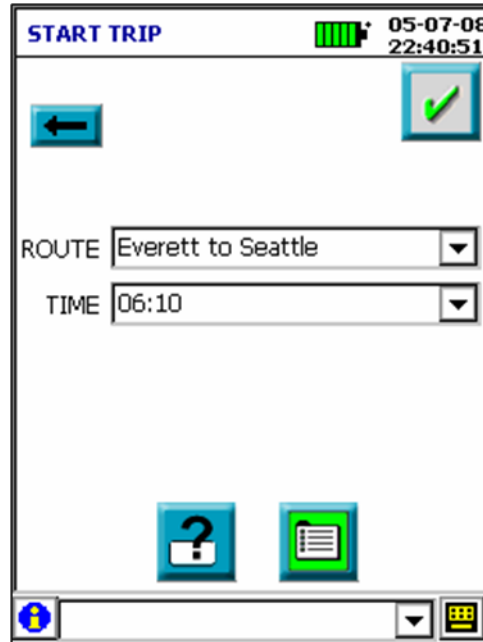


Figure 29: Start Trip screen

## 3.6 End Shift

At the end of a shift (that is, end of the day), you must first go to the **End Trip** screen to end the final trip for the shift, and then end the shift (see section 3.5 End Trip 21).

To end the shift and log out, from the **Start Trip** screen:

22. Tap the **Options** button.

This will display the **Shift Options** screen.

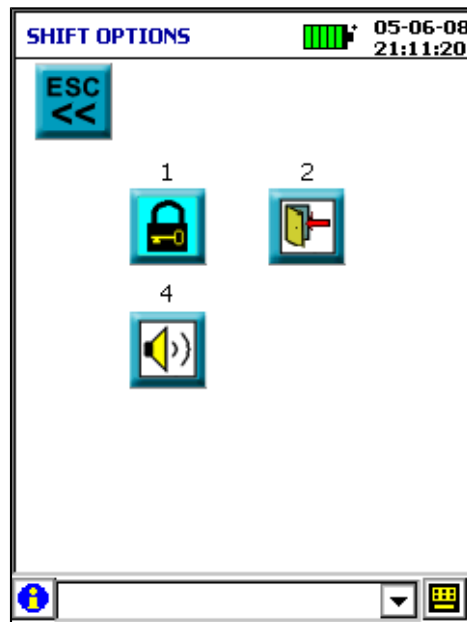


Figure 30: Shift Options screen

23. Tap the **End Shift** button or press the 2 hotkey.

This will display the **End Day** confirmation screen.

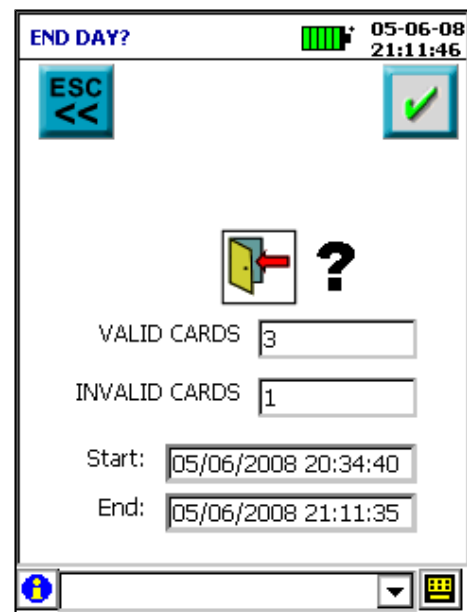


Figure 31: End Day? screen

The **End Day** screen displays the total number of Valid Cards and Invalid Cards for the shift. The shift Start and End dates and times are also shown.

24. Tap the **Check** button.

The PFTP will attempt to connect with the DAC to upload UD. The **Connecting** screen is displayed briefly.



Figure 32: Connecting screen

If a connection cannot be made at this time, a **Connect Failed** message will appear.



Figure 33: Connect Failed screen

The device goes through a sequence of attempts to connect to the DAC. If it fails, it will try again later. Non-connection has no effect on the operator's ability to do the End Trip or End Shift procedure. In other words, if the device cannot connect, the operator can nevertheless end the trip or shift. When either of these actions takes place, a record is logged in UD, which will be uploaded on the next successful connection, such as at the next End of Shift.

**Note:** If chronic connection failures prevent multiple UD uploads, there is a possibility that the memory of the PFTP has become full. See 6 Error Messages on page 44 regarding a Memory Full error message.

If the connection is successful, the upload will take place and the **Connected** message will be briefly displayed.



Figure 34: Connected screen

The device will then return to the **Log In** screen, ready for the next shift to commence.

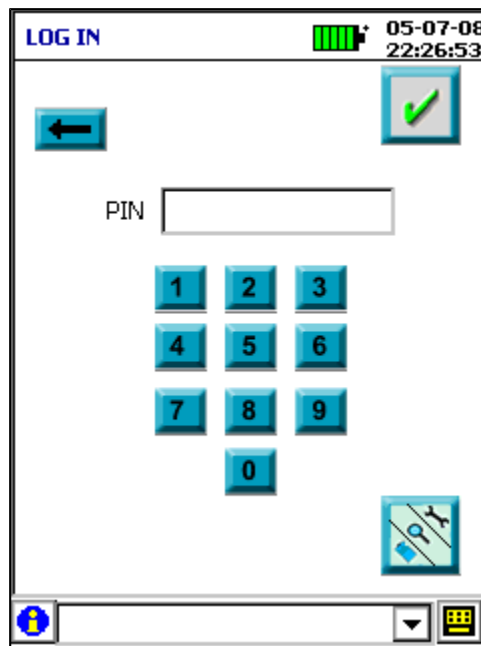


Figure 35: Log In screen

If the PFTP is not being used immediately for another shift:

25. Return the PFTP to the charging cradle.

The PFTP detects the connector and attempts to upload UD.

**Note:** Connecting the device to the power source whenever possible keeps it fully charged. This minimizes the possibility of the device running out of battery power and losing vital data (see section 6 Error Messages, 44).



Figure 36: Connecting screen

On successful completion of the data transfer connection, the **Connected** screen is displayed.



Figure 37: Connected screen

**Note:** If the data connection fails, the **Connect Failed** screen is displayed.



Figure 38: Connect Failed screen

Following successful connection, the **Connected** screen times out and the **Data Transfer** progress screen (with status bars) is displayed during data transfer.

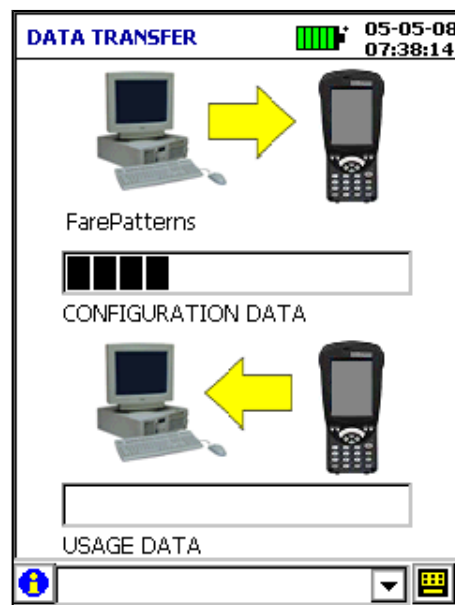


Figure 39: Data Transfer screen

Following successful completion of data transfer, the **Log In** screen is displayed.

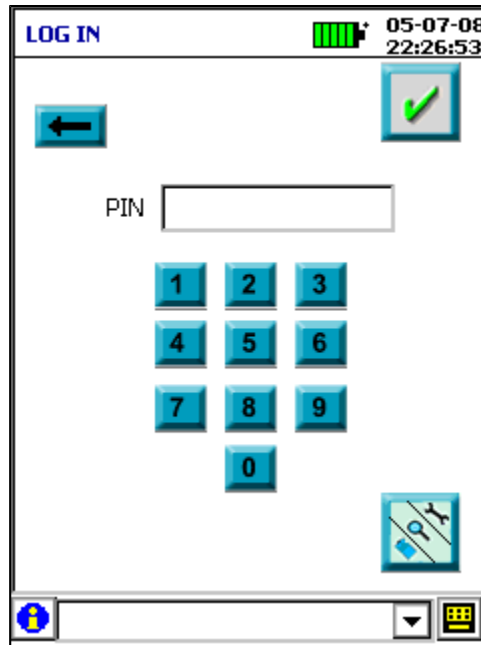


Figure 40: Log In screen

### 3.7 Lock/Unlock Device

The PFTP can be locked so that unauthorized persons cannot use it. Only a person with an operator card with a valid role can unlock the device.

The PFTP can be locked from the **Inspect Cards**, **Start Trip**, or **Card Inquiry** screens by the following steps:

1. Tap the **Options** button.

This will display the **Trip Options** or **Shift Options** screen.

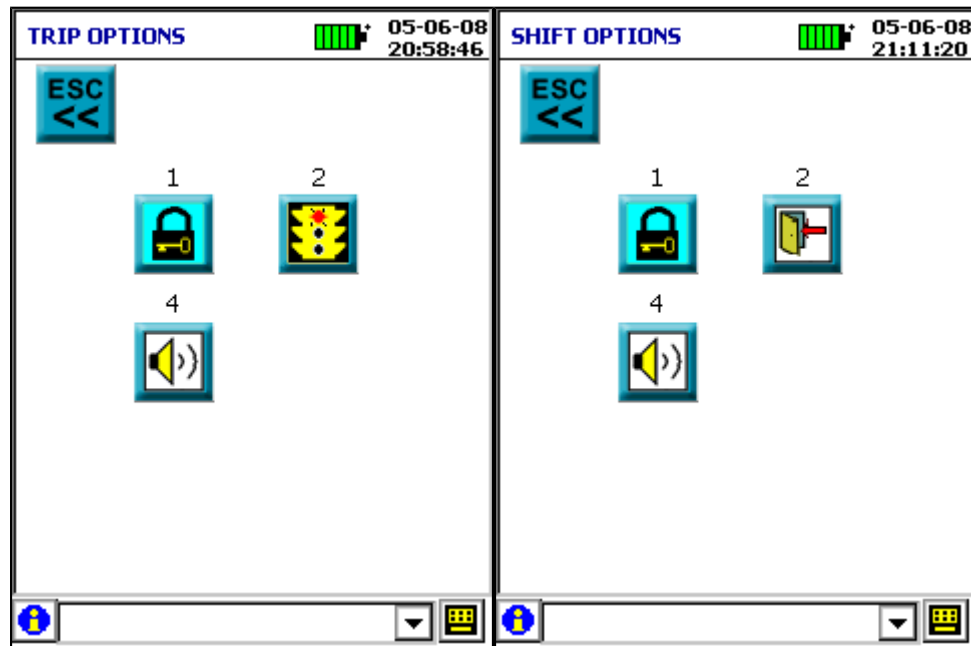


Figure 41: Trip Options and Shift Options screens

2. Tap the **Device Lock** button or press the **1** hotkey.

This will display the **Device Locked** screen.

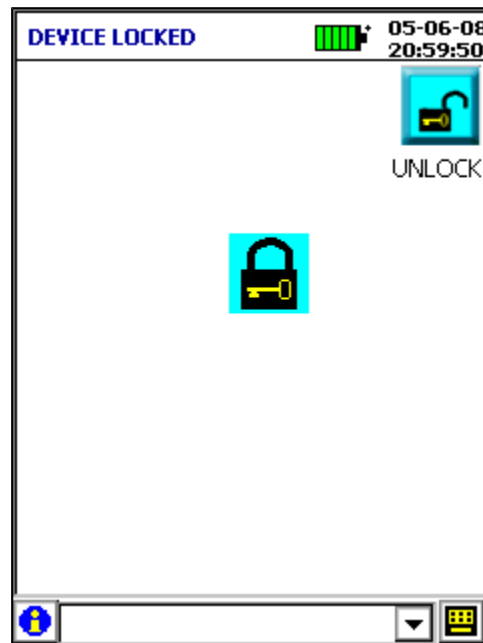


Figure 42: Device Locked screen

The PFTP is now locked.

To unlock the device:

3. Tap the **Unlock** button.
4. This will display the **Log In** screen (see section 3.1 Login 11).

**Note:** If the device is unlocked by a different operator than the one who locked it, the current trip and shift will be ended and a new shift will be started for the person who unlocked the device.

## 4 Supervisor Mode

Supervisor mode provides access to the following set of screens:

- **List Trips** - shows a list of all trips logged on the PFTP.
- **Trip Totals** - shows the valid and invalid cards that have been presented during the current trip. Start and finish times for the trip are also displayed.
- **Shift Totals** - shows the total valid and invalid cards that have been presented during the current shift. Start and finish times for the shift are also displayed.
- **Change PIN** - a new PIN can be created for an operator card.
- **Unblock** - cards that have been blocked can be unblocked by an authorized Supervisor.

To log in using Supervisor role, at the **Log In** screen:

5. Enter your Supervisor PIN in the **PIN** field.

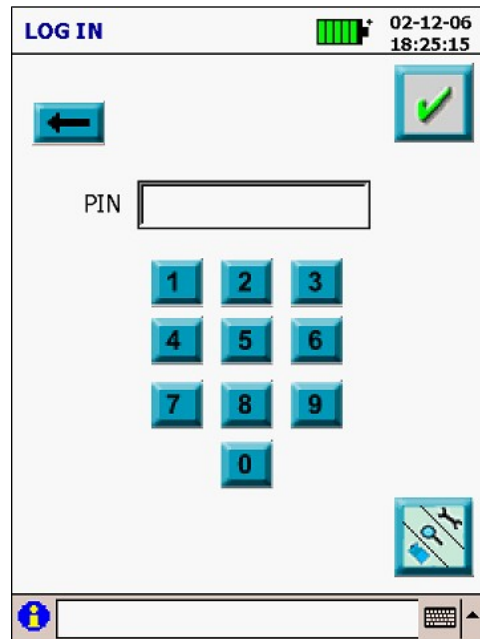


Figure 43: Log In screen

Tap the **Roles** button.

This will display the **Select Role** screen.

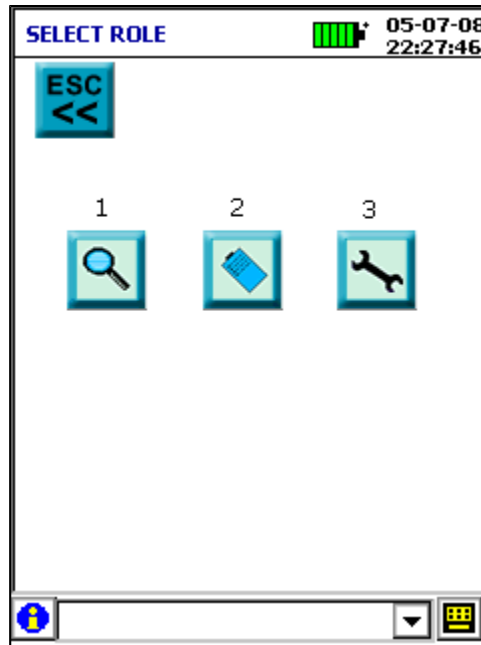


Figure 44: Select Role screen

6. Tap the **Supervisor** button or press the **2** hotkey.

This will display the **Log In (Present Operator Card)** screen:

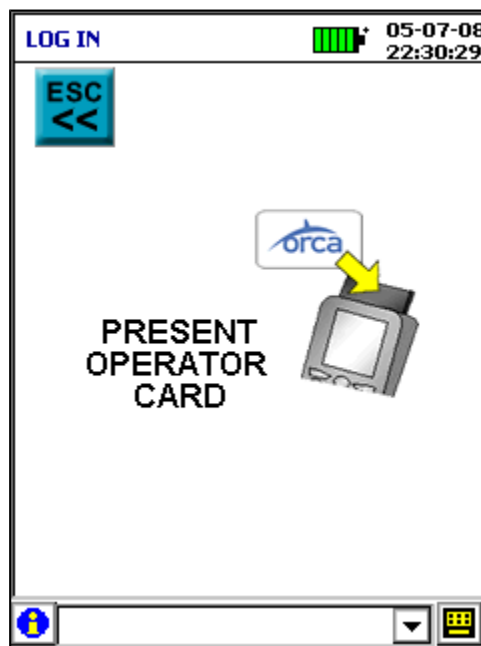


Figure 45: Present Card screen

7. Present your card at the card reader.

If the login is incorrect, the **Invalid Role** screen is displayed. Tap the **ESC** button and try again.

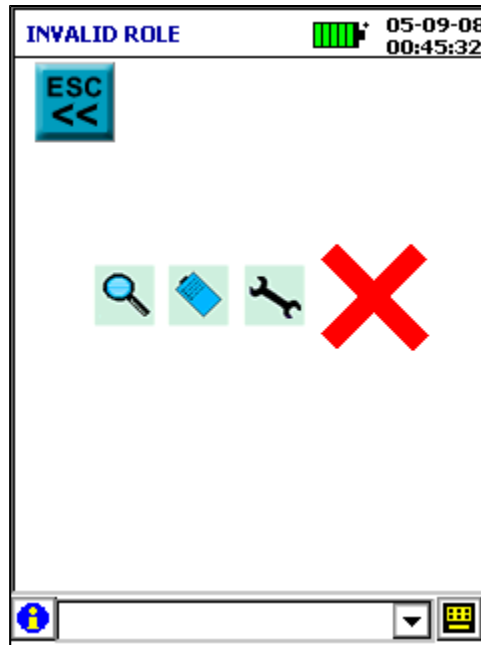


Figure 46: Invalid Role screen

If the card and the PIN match, the PFTP will display the **Supervisor** screen.

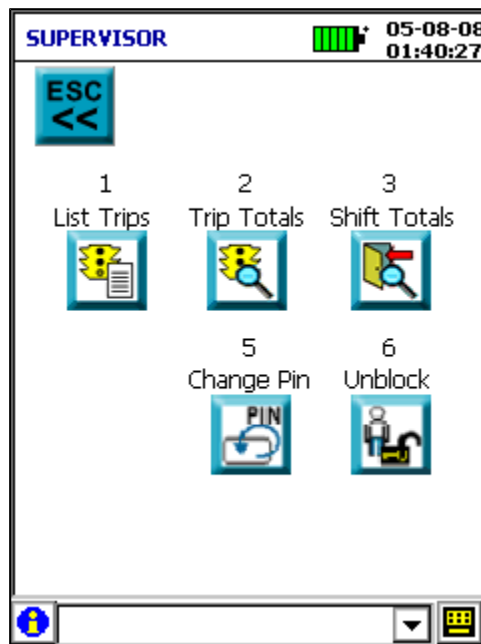


Figure 47: Supervisor screen

This screen includes buttons for each of the Supervisor functions. Sections 4.1 through 4.5 describe each of these functions.

## 4.1 List Trips



The **List Trips** screen is launched from the **Supervisor** screen. This screen shows a list of the trips that have been logged on the PFTP.

8. Tap the **List Trips** button or press the **1** hotkey.

The **List Trips** screen is displayed.

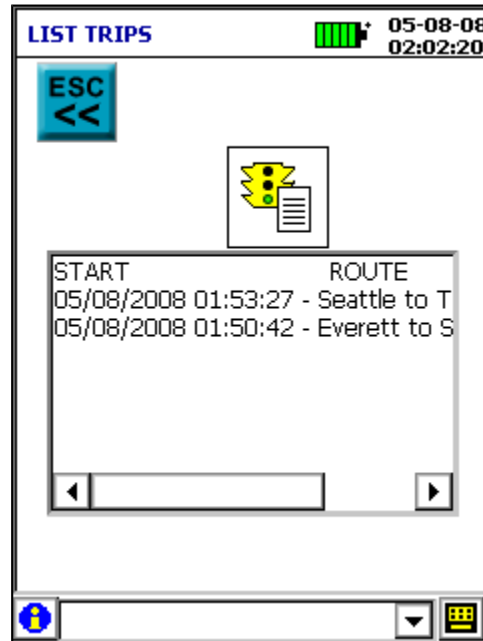


Figure 48: List Trips screen

9. Tap the **ESC** button to return to the **Supervisor** screen.

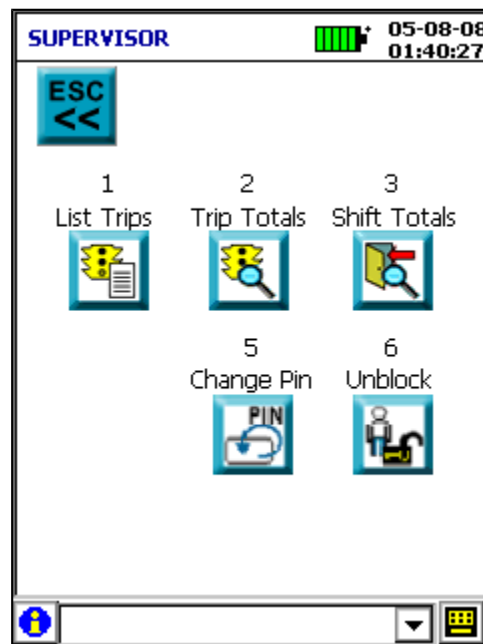


Figure 49: Supervisor screen

## 4.2 Trip Totals



The **Trip Totals** screen is launched from the **Supervisor** screen. This screen shows the valid and invalid cards that have been presented to the PFTP during the current trip. The start and end times for the trip are also displayed.

1. Tap the **Trip Totals** button or press the **2** hotkey.

The **Trip Totals** screen is displayed.

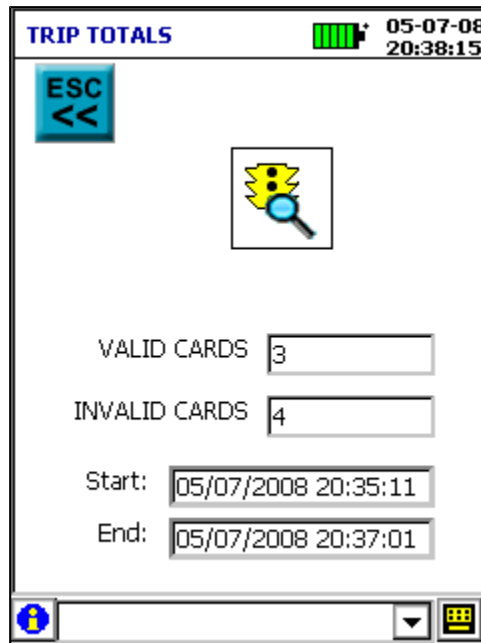


Figure 50: Trip Totals screen

2. Tap the **ESC** button to return to the **Supervisor** screen.

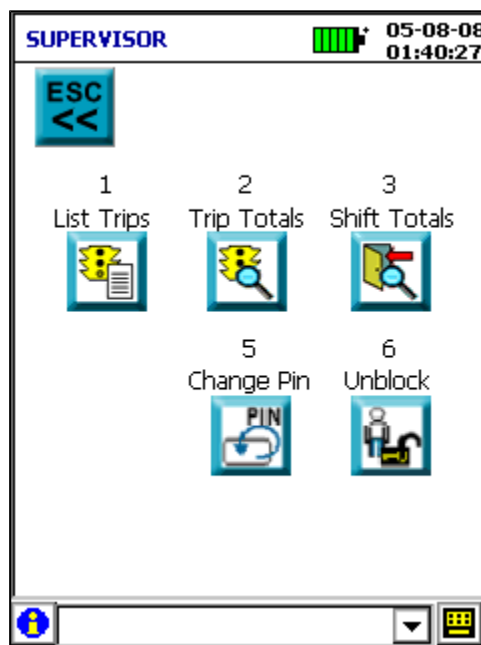


Figure 51: Supervisor screen

## 4.3 Shift Totals



The **Shift Totals** screen is launched from the **Supervisor** screen. This screen shows the total valid and invalid cards that have been presented to the PFTP during the current shift. The start and end times for the shift are also displayed.

1. Tap the **Shift Totals** button or press the **3** hotkey.

The **Shift Totals** screen is displayed.

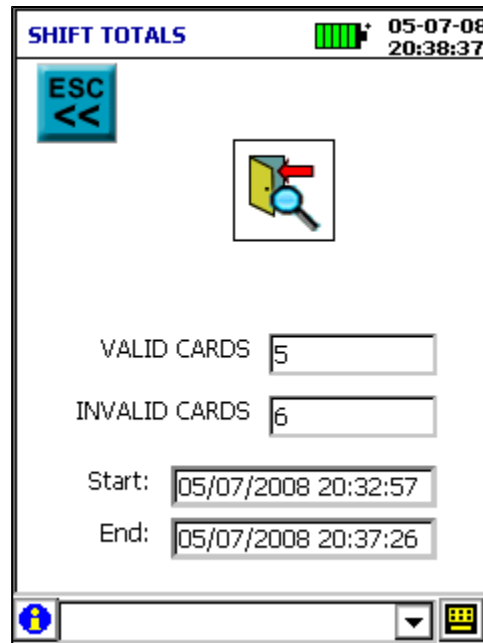


Figure 52: Shift Totals screen

2. Tap the **ESC** button to return to the **Supervisor** screen.

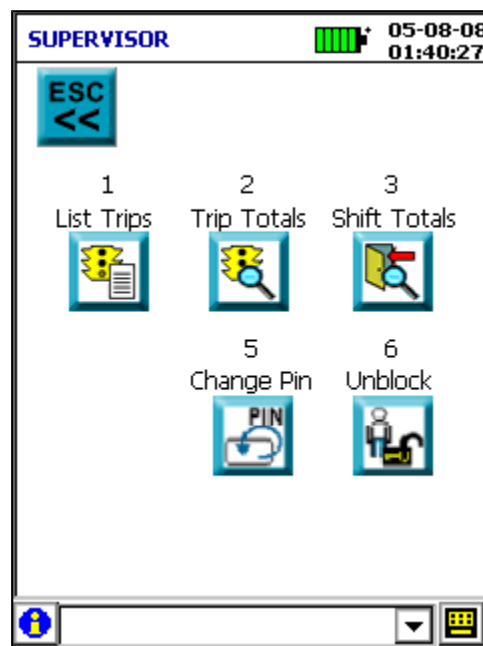


Figure 53: Supervisor screen

## 4.4 Change PIN



The **Change PIN** screen is launched from the **Supervisor** screen. This screen allows you to create a new PIN for operator cards.

1. Tap the **Change PIN** button or press the **5** hotkey.

The **Change PIN** screen is displayed.

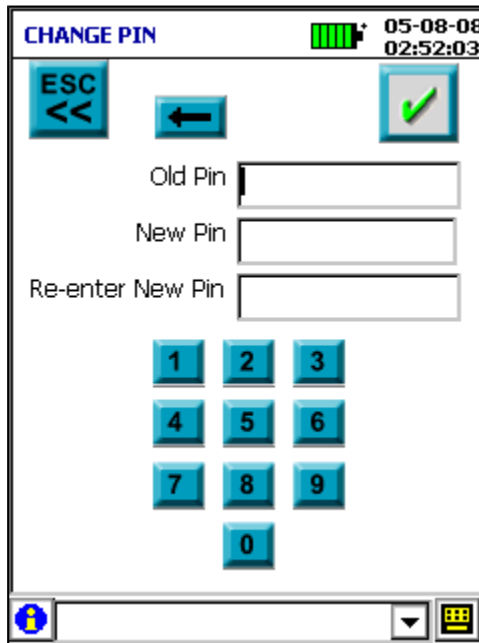


Figure 54: Change PIN screen

2. Enter the current PIN in the **Old Pin** field.
3. Enter the new PIN in the **New Pin** field. The device will accept up to six numbers.
4. Enter the new PIN a second time in the **Re-enter New Pin** field, to make sure it has been entered correctly.
5. Tap the **Check** button to confirm the change of PIN.

To correct an entry error, tap the **Clear** button to clear the entry in the current field.

If you decide not to change the PIN at this time, tap the **ESC** button.

6. When prompted, present the card to the card reader.

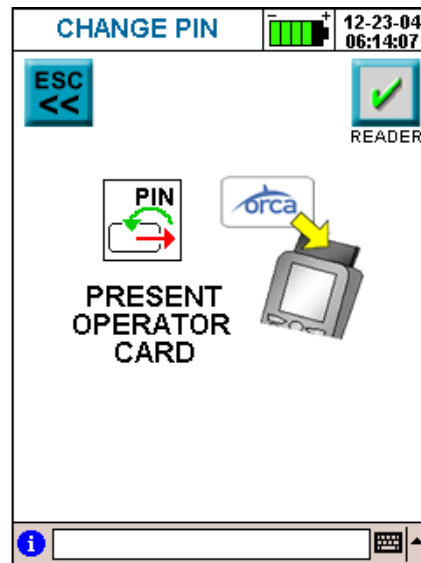
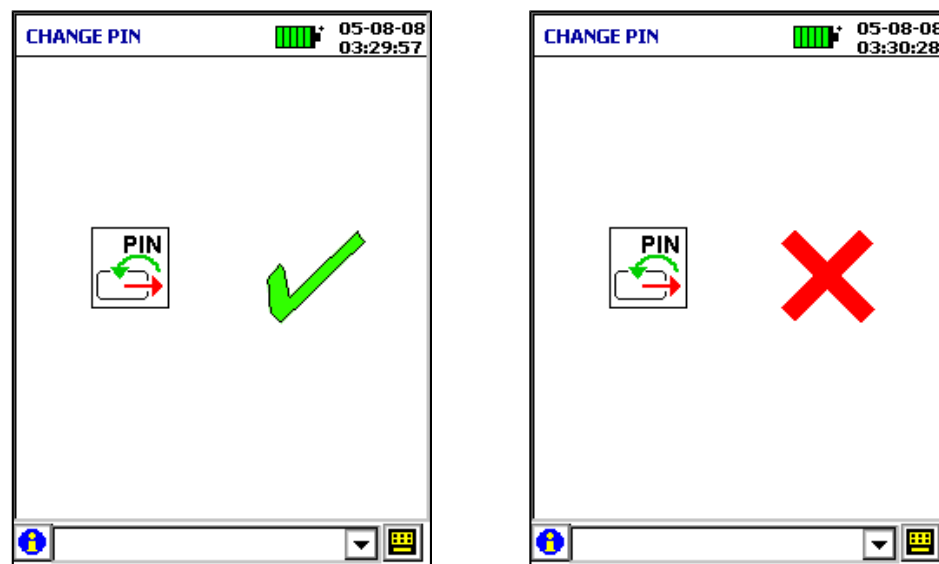


Figure 55: Change PIN Present Card screen

The **Old Pin** entry will be verified to see if it is valid, and the **New Pin** and **Re-enter New Pin** entries will be verified to see if they are consistent.



If the entries are correct, the PIN will be changed and this message shown.

If the entries are not correct, the PIN will not be changed and this message will be shown.

Figure 56: Change PIN Success and Failure screens

7. Tap the **ESC** button to return to the **Supervisor** screen.

## 4.5 Unblock



The **Unblock** screen is launched from the **Supervisor** screen. This screen allows blocked operator cards to be unblocked.

8. Tap the **Unblock** button or press the **6** hotkey.  
The **Unblock Card** screen is displayed.

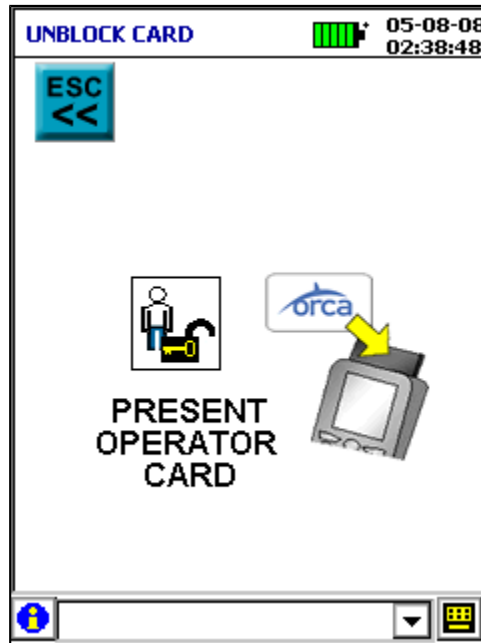
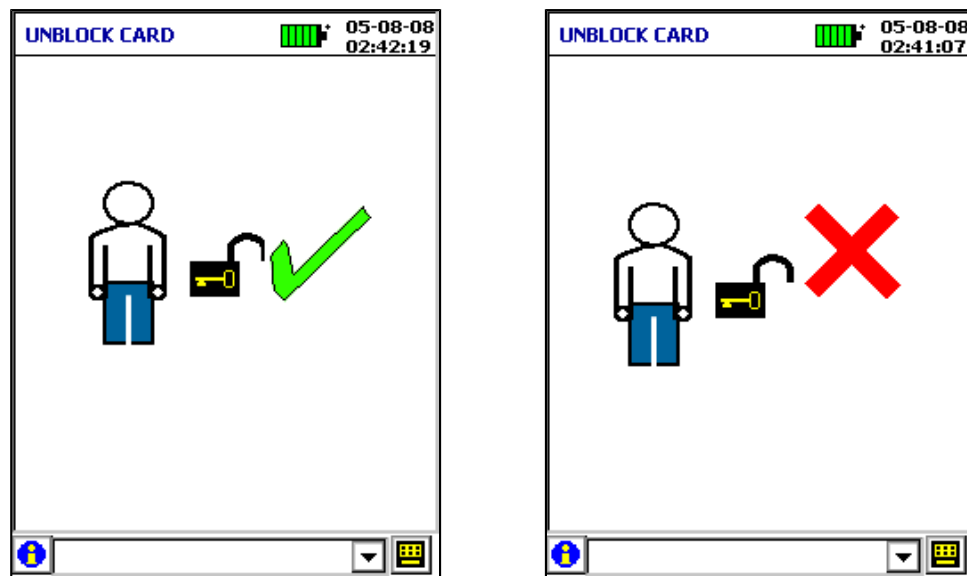


Figure 57: Unblock Card – Present Card screen

9. Present the card to the card reader.



If the unblock is successful, this screen is displayed.

If the card cannot be unblocked, this screen is displayed.

Figure 58: Unblock Card Success and Failure screens

10. Tap the **ESC** button to return to the **Supervisor** screen.

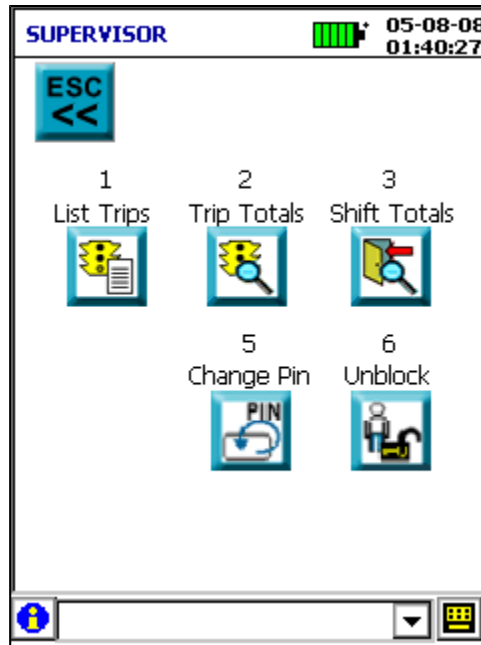


Figure 59: Supervisor screen

## 5 Troubleshooting

This section describes situations in which the PFTP is not operating correctly, and possible solutions. If you are not able to correct the fault with the help of this information, please refer the PFTP to a Maintenance person, or return the device to technical support for their attention.

### 5.1 Out of Service

If the **Out of Service** screen is displayed, the reason for the fault is given in a scrollable box on screen.

Verify that a card reader is plugged into the device. If a card reader is plugged in, the reader might be faulty. Verify this by replacing the card reader with another one that is known to be working on another PFTP device.

It is important that the latest CD is available. This is verified through the CD List in Maintenance mode, so you will need to refer the device to a Maintenance person.

### 5.2 Device Ceases to Operate

If the PFTP stops responding to keypad or keyboard input, then you should reset the device by pressing the stylus into the reset hole on the rear of the unit. Refer the device to a Maintenance person, or to technical support.

### 5.3 Device Will Not Restart

If the PFTP will not start, the batteries might be discharged. Recharge the batteries by placing the PFTP into the charging cradle until the batteries are fully recharged. This should be done as often as practical.

In normal use, battery charge should be verified periodically and action taken to avoid situations in which the batteries become fully discharged.

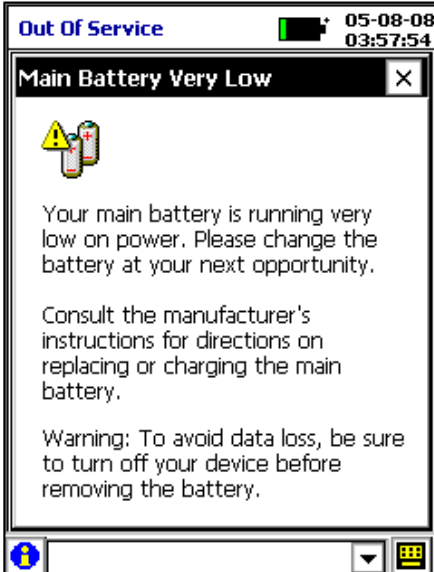

**Note:** If the PFTP loses all battery power, it will lose the registry content and drivers. This will require the device to be returned to technical support to be reconfigured.




## 6 Error Messages

The screens in Table 2 show various error messages that might be displayed on the PFTP.

Table 2: Error Messages

Error Message	Description
	<p><b>Battery Warning</b></p> <p>It is urgent that the Extended Battery Low warning be addressed immediately.</p> <p>If the PFTP loses all battery power, it will lose the registry content and drivers. This will require the device to be returned to technical support to be reconfigured.</p> <p><b>Note:</b> It is most important that the device be connected to the power source by using the <a href="#">iPAQ-Psion</a> connector as often as possible, so that recharging can take place (see section 3.6 End Shift, 23).</p>
	

Error Message	Description
	<p><b>Memory Full</b></p> <p>If the PFTP has not connected to the DAC for an extended period, the UD will not have been uploaded. Once the device memory becomes full, the PFTP will not carry out further activities until it has been connected to the power source, so that the DAC connection can take place.</p> <p>It is important to have regular data transfers, because the download of current CD is vital to the effective operation of the PFTP.</p>

# Appendix A Terminology

This section contains lists of acronyms, abbreviations, and terms used in this document.

## A.1 Acronyms and Abbreviations

Table 3 contains the acronyms and abbreviations that are specific to ERG. In general, industry standard acronyms and abbreviations are not defined in this table.

**Table 3: Acronyms and Abbreviations**

Acronym or Abbreviation	Definition
AFC	Automated Fare Collection
CD	Configuration Data
DAC	Data Acquisition Computer
ERG	ERG Transit Systems (USA), Inc.
ESB	ERG Service Bureau
FTP	Fare Transaction Processor
OpAp	Operator Application
ORCA	One Regional Card for All
PFTP	Portable Fare Transaction Processor
PIN	Personal Identification Number
RFCS	Regional Fare Coordination System
ST	Sound Transit
UD	Usage Data

## A.2 Terms and Definitions

Table 4 contains the terms that are specific to ERG. In general, industry standard terms are not defined in this table.

**Table 4: Terms and Definitions**

Term	Definition
Automated Fare Collection (AFC)	The overall process for collecting and correlating fares and transit products for the Regional Fare Coordination System (RFCS).
Card	Refers to a contactless smart card. The medium used by a cardholder to store applications.
Configuration Data (CD)	A generic term for data that is sent to a device or host to configure its functionality.
Data Acquisition Computer (DAC)	A central computer that collects the data from on-board, portable, and stand-alone FTPs or other designated RFCS equipment for transfer to the Clearinghouse and provide the relevant Agency with duplicates of the data files transferred to the Clearinghouse.
ERG Service Bureau (ESB)	ERG's central processing center, responsible for card procurement, initialization, and distribution services. The ESB also provides second-tier customer service functionality and associated card and device management.

Term	Definition
Fare Card	A nondisposable smart card for transit use.
Multiride Product	<p>A prepaid product that provides the cardholder with the right to travel for a specific number of journeys. For example, a ten-ride product, which offers the cardholder ten journeys. <i>See also</i> purse and period pass.</p> <p>A multiride product holds electronic value in ride units. A cardholder purchases a multiride product and receives a fixed number of rides on the multiride product on the card.</p> <p>The cardholder can subsequently use rides on the multiride product to pay for transit services from Service Providers that honor the multiride product.</p>
Operator	The Agency staff member, ESB staff member, or any authorized person using the RFCS equipment.
Operator Application (OpAp)	An application associated with operator and employee fare cards. OpAp data is used for authorizing and tracking the use of devices and equipment in the system, as well as operator reporting
Operator Card	A nondisposable smart card, with the operator application installed, for transit employee device access for operations, management, and maintenance.
Pass	A card product that permits unlimited journeys by the cardholder on a specific transit operator within a specific time period.
Period Pass	An electronic record maintained on a fare card that permits unlimited rides by the cardholder on specific transit operators within a fixed amount of time. Period passes are products that cover fares less than or equal to the face value of the product. A period pass does not have the concept of a discrete remaining value that is affected on a per usage basis. <i>See also</i> pass.
Portable Fare Transaction Processor (PFTP)	The PFTP is a handheld computer operated by Agency personnel to process RFCS transactions where fixed position equipment is impractical. It is used for fare payment transactions and card inspection.
Product	A form of contract between the product issuer and cardholder. A generic term for the collection of specific product types, i.e. multiride, period, and purse products.
Purse	An electronic representation of the monetary value on a fare card.
Revalue	<p>Revalue of a card comprises the following operations:</p> <ul style="list-style-type: none"> <li>Initial value of a fare card with a pass, multiride product, or stored value</li> <li>Addition of a new pass, multiride product, or stored value to a fare card</li> <li>Extension of the period for which a pass is valid</li> <li>Addition of further rides to a multiride product.</li> </ul>
Timeout	A period of inactivity that results in a device reverting back to the previous screen or logging off the operator.
Usage Data (UD)	A generic term for data that is generated when a transaction or event occurs. For example, a transaction record is a type of usage data.

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## Appendix C References

The following materials are to be used in conjunction with or are referenced by this document.

- [1] Contract 229944 (April 29, 2003)  
Division III: Equipment Specifications.
- [2] SEA-01052  
Portable Fare Transaction Processor (DR 105B) - Functional Specification



## Appendix D Document History

Table 5: Document History

Revision	Revision Date	Reason for Issue	Author
0.1	20 Feb 2006	Initial draft	Steve Jackson
0.2	21 Feb 2006	Edit/format for submission	Stephen Lynch
1.0	22 Feb 2006	Release to Customer	Patrick Branch
1.1	26 Apr 2006	Updated from Customer Comments	Steve Jackson
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4.0	14 Sept 2006	Release to Customer	Rose Fallaw
4.1	19 Sept 2008	Edited for Submittal	Michael Grey
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5.0	27 Oct 2008	Release to Customer - Release 4 Trng - ERG Submits [SEA300850]	Rose Fallaw
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